MINIMUM ALLOWABLE CLASSES OF RCP FOR METHOD 1

Cover	Minimum Class & D-Load
1.80 m (5.9')	Class II ,50D ,(1000D)
1.81 m-2.40 m (6.0'-7.9')	Class III ,65D ,(1350D)
2.41 m-3.00 m (8.0'-9.9')	Class III ,Special 80D ,(Special 1700D)
3.01 m-3.60 m (10.0'-11.9')	Class IV ,100D ,(2000D)
3.61 m-4.20 m (12.0'-13.9')	Class IV ,Special 120D,(Special 2500D)
4.21 m-5.10 m (14.0'-16.9')	Class V ,140D ,(3000D)
5.11 m-6.00 m (17.0'-20.0')	Class V ,Special 170D,(Special 3600D)

See Notes 6 and 9

MINIMUM ALLOWABLE CLASSES OF RCP FOR METHOD 2

Cover	Minimum Class & D-Load
4.80 m (15.9')	Class II ,50D ,(1000D)
4.81 m - 6.00 m (16.0' - 19.9')	Class III ,65D ,(1350D)
6.01 m - 7.50 m (20.0' - 24.9')	Class III ,Special 80D ,(Special 1700D)
7.51 m - 8.50 m (25.0' - 27.9')	Class IV ,100D ,(2000D)
8.51 m - 10.60 m (28.0' - 34.9')	Class IV ,Special 120D,(Special 2500D)
10.61 m - 12.80 m (35.0' - 41.9')	Class V ,140D ,(3000D)
12.81 m - 15.00 m (42.0' - 50.0')	Class V ,Special 170D,(Special 3600D)

See Notes 8 and 9

MINIMUM ALLOWABLE CLASSES OF RCP FOR METHOD 3

Cover	Minimum Class & D-Load
7.90 m (25.9')	Class II ,50D ,(1000D)
7.91 m - 9.70 m (26.0' - 31.9')	Class III ,65D ,(1350D)
9.71 m - 11.50 m (32.0' - 37.9')	Class III ,Special 80D ,(Special 1700D)
11.51 m - 13.70 m (38.0' - 44.9')	Class IV ,100D ,(2000D)
13.71 m - 17.00 m (45.0' - 55.9')	Class IV ,Special 120D,(Special 2500D)
17.01 m - 20.70 m (56.0' - 67.9')	Class V ,140D ,(3000D)
20.71 m - 24.00 m (68.0' - 80.0')	Class V ,Special 170D,(Special 3600D)

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Paul Cotter
REGISTERED CIVIL ENGINEER

July 1, 2002
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Paul Cotter — No. C34509 — Exp. 9-30-03 — CIVIL — STATE OF CALIFORNIA

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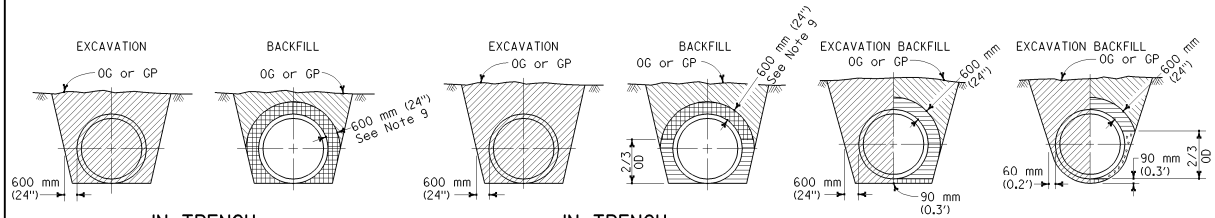

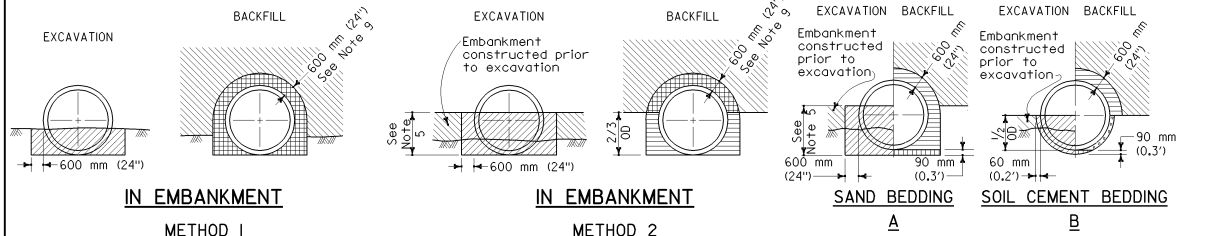

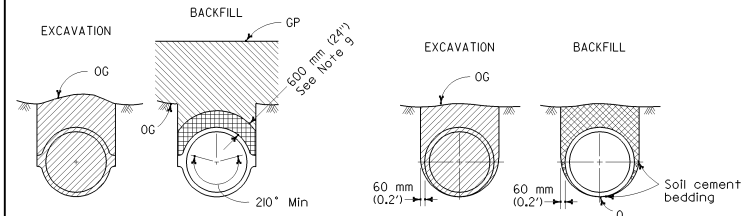

NOTES

1. Unless otherwise shown on the plans or specified in the Special Provisions, the Contractor shall have the option of selecting the class of RCP and the method of backfill to be used, provided the height of cover does not exceed the value shown for the RCP selected.
   Example:
   600 mm (24") RCP culvert with maximum cover of 5.80 m (19.0') the options are:
   a) Class V Special or stronger with Method 1.
   b) Class III or stronger with Method 2.
   c) Class II or stronger with Method 3.
   Cover is defined as the maximum vertical distance from top of pipe to finished grade within the length of any given culvert.
2. The class of RCP, method of backfill and bedding selected shall be the same throughout the length of any given culvert.
3. The "length of any culvert" is defined as the culvert between:
   a) Successive drainage structures (Inlets, junction boxes, headwalls, etc.).
   b) A drainage structure and the inlet or outlet end of the culvert.
   c) The inlet and outlet end of the culvert when there are no intervening drainage structures.
4. Slope or shore excavation sides as necessary.
5. Embankment height prior to excavation for installation of all classes of RCP under Methods 2 and 3A shall be as follows:
   Pipe sizes 300 mm to 1050 mm (12" to 42"), ID = 750 mm (30")
   Pipe sizes 1200 mm to 2100 mm (48" to 84"), ID = 2/3 OD
   Pipe sizes larger than 2100 mm (84"), ID = 1500 mm (60")
6. The maximum size for all classes of RCP placed under Method 1 is 1950 mm (78") ID.
7. Non-reinforced precast pipe sizes 900 mm (36") or smaller may also be placed under Methods 1, 2 or 3.
8. Oval or arch shaped RCP shall be placed under Method 2 only.
9. Embankment compaction requirements govern over the 90% relative compaction backfill requirement within 750 mm (30") of finished grade.
10. Backfill shall be placed full width of excavation except where dimensions are shown for backfill width or thickness. Dimensions shown are minimums.
11. Minimum cover over top of pipe at edge of traveled way shall be 600 mm (24") for AC pavement and 300 mm (12") for PCC pavement.
12. Where the precast non-reinforced conceret pipe is used as a substitute for the cast-in-place pipe, both the wall thickness and the concrete strength shall be at least as great as that specified for the cast-in-place pipe. The fill height allowed shall not exceed that shown for the cast-in-place pipe.

LEGEND

- Structure Excavation (Culvert)
- Structure Backfill (Culvert) 95% relative compaction
- Structure Backfill (Culvert) 90% relative compaction
- Loose Backfill
- Sand Bedding
- Soil Cement Bedding
- Roadway Embankment
- Original Ground

OD = Outside diameter for circular pipes and maximum vertical dimension for other shapes

ID = Inside diameter for circular pipes and minimum vertical dimension for other shapes

RCP = Reinforced concrete pipe

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

EXCAVATION AND BACKFILL CONCRETE PIPE CULVERTS

These "Standard Plans for Construction of Local Streets and Roads" contain units in two systems of measurement: International System of Units (SI or "metric") and United States Standard Measures shown in the parentheses ( ). The measurements expressed in the two systems are not necessarily equal or interchangeable. See the "Foreword" at the beginning of this publication.

NO SCALE

A62D

2002 DUAL UNITS STD PLAN A62D